Section C - Description/Specifications/Statement of Work

GENERAL SPECIFICATIONS
Manila Office Roof Replacement

100% Submittal – 03/23/2012

1.1 SCOPE OF CONTRACT

A. This project includes all requirements and necessary construction to alleviate existing roof deterioration. Steps that will be taken will include the following:

1. Remove existing roof materials and attic insulation according to drawings and specifications.
2. Install new roof construction per design according to drawings and specifications.
3. Install new insulation according to drawings and specifications.
4. Warranty of the new remodel/installation is to be included in the Project.

B. Demolition and Construction sequencing shall be as follows:

1. Remove existing roof materials according to drawings and specifications. Roof shall be stripped down to the existing roof decking. Remove all of the following.

a. Existing cedar shingle roof and underlying felts to expose decking.
b. All existing flashings. Existing flashings are not to be incorporated into new roof
c. Other existing roofing material as deemed necessary by the COR and contractor.
d. Existing attic insulation. Contractor shall remove insulation with an industrial grade vacuum when the roof is open from demolition.

1.2 DESIGN CRITERIA

1. Architectural Grade Asphalt Shingles, See Specification.
2. One layer of Ice and Water Shield applied over eaves and valleys.
3. Asphalt Impregnated Roofing Felt
4. Ridge Vents along horizontal ridge lines.
5. Flashings as Necessary.
6. New Metal drip edge
7. Insulation - Install new blown cellulose insulation in attic (min R-38).

1.3 PROJECT LOCATION

A. The project is for the existing Manila Office, located immediately south of the Flaming Gorge Ranger District Office at 25 W Highway 43, Manila, UT 84046, via Highway. The work is in the Flaming Gorge Ranger District of the Ashley National Forest,

Daggett County, Utah, in the town of Manila. The project may be accessed from State Highway 43.

1.4 SITE INFORMATION AND LIMITATIONS

A. The following site conditions are considered incidental to the contract and the contractor will not be paid directly for any of the following items:

1. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated
2. There is existing electrical service for the site. Contractor shall have permission to use existing electrical services during construction. Contractor shall be aware of the use of electrical services, and shall limit the use of electrical services to the construction alone. Contractor is responsible for turning off all lights and power so as not to waste electricity. Contractor shall provide connections and extensions of services as required for construction operations.
3. The office will be occupied during the construction. The contractor shall take necessary precautions to keep the facility weathertight and to avoid damage to the interior of the facility.
4. Water is available at the site for construction purposes.
5. The Contractor shall provide temporary toilet facilities (porta-potty) at the site during all construction work.
6. Construction Hours – Hours of operation for the construction, demolition, excavation and subsequent cleanup shall be only between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday.

1.5 TEMPORARY ACCESS

A. Parking: Use designated areas for construction personnel or as approved by the Contracting Officer. Parking in the driveway, for construction is acceptable, if additional parking is required it shall be limited to 4 stalls in the Flaming Gorge Ranger District parking lot immediately south of the facility. Coordinate all other parking with the Contracting Officer.

1.6 WASTE MANAGEMENT AND DISPOSAL

A. Waste Management Plan: Submit 3 copies of plan within 14 days of date established for the Notice to Proceed.

B. Processing waste material for salvage and recycling is encouraged.

C. The Contractor shall provide and maintain appropriate waste disposal containers or bins at the project site for the duration of the project construction. Verify with Contracting Office for placement of disposal containers and bins on the project site.

D. Waste material and debris shall be picked up and deposited in the waste disposal bins on a daily basis. Containers must be emptied on a weekly basis unless more frequent empting is needed. Construction materials and debris shall not be allowed to become airborne or migrate into adjacent properties.

E. Burning or burying of construction waste material on site will not be permitted. Material shall be disposed of in accordance with the Waste Material Disposal specification.

1.7 TRAFFIC CONTROL AND CONSTRUCTION SIGNING

A. No work that endangers, interferes, or conflicts with traffic or access to work sites shall be performed until a plan for satisfactory warning and handling of traffic has been submitted by the contractor and approved by the COR and Utah Department of Transportation. Construction signing for traffic control shall conform to the Manual of Uniform Traffic Control Devices (MUTCD). All traffic control signs will be placed in areas adequate for a truck pulling a fifth wheel trailer to be turned around. Contractor shall not be paid directly for this item, rather it will be considered incidental to other items of work listed in the Schedule of Items.

1.8 WORK CAMPS, STAGING AND STORAGE AREAS

A. Areas for staging operations and storage of materials shall be approved by the CO. The Contractor must request in writing for approval from the CO to stage trailers (work) on site.

B. No overnight camping will be allowed on site.

1.9 INSPECTION OF WORKSITE

A. The contractor acknowledges they have taken the necessary steps to ascertain the nature and location of work, and have investigated and satisfied themselves as to the general and local conditions that can affect the work or its cost. Any failure of the contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from the responsibility of estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expenses to the government.

1.10 START DATE

A. June 2012

1.11 CONTRACT TIME

A. Base Bid: 30 Calendar Days

1.12 SPECIFICATIONS

A. The following specifications are attached. Some sections in the schedule of items refer to other sections not listed and are subsidiary to, or are included in payment for other pay items in this contract. These items are considered incidental and no additional compensation will be made.

Section 000050 - Project Description
Section 011700 - Accident Prevention
Section 013300 - Submittal Procedures
Section 017320 - Selective Demolition
Section 024100 - Waste Material Disposal
Section 061000 - Rough Carpentry
Section 061600 - Sheathing
Section 072100 - Building Insulation
Section 073110 - Asphalt Shingles
Section 076200 - Sheet Metal Flashing And Trim

END OF SECTION C
June 2012

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SECTION 000050 - PROJECT DESCRIPTION

PART 1 - GENERAL

1.1 SUMMARY

A. This project includes all labor, fees and materials associated with installing a residential grade, laminated asphalt shingle roof for the facility. Work includes removing: existing cedar shingles, attic insulation; and installing new: roof sheathing, flashing (i.e. vent, fascia, chimney etc.), attic insulation, and new roofing as described in the drawings and specifications. Government COR will direct contractor on location. The bid shall include all components to provide a complete job for roofing installation. The contractor shall measure the components and quantities on the site.

B. Work that will be completed in this project will include the following.
   1. Remove existing roof materials and attic insulation as shown in drawings and specifications.
   2. Install new roof construction per design as shown in drawings and specifications.
   3. Install new attic insulation as shown in the drawings and specifications.

C. Warranty of the new cold roof installation is to be included in the project.

1.2 MEASUREMENT AND PAYMENT

A. Manila Office Roof Replacement – Measurement and Payment shall be Lump Sum Quantity (LSQ) as shown in the Schedule of Items for the demolition and remodel of new roof of the Manila Dwelling #1 to be completed and ready for use. Measurement shall include all labor, fees and materials associated with installing a residential grade, laminated asphalt shingle roof for the facility. Work includes removing existing cedar shingles, installing new roof sheathing and underlayment over entire roof, providing and installing minor repairs to the roof deck, flashing, vent flashing, and new roofing as described in these specifications. Government COR will direct contractor on location. The bid shall include all components to provide a complete job for roofing installation, and all work items included in the drawings and specifications.

   1. LUMP SUM QUANTITIES (LSQ) - These quantities denote one complete unit of work as required by or described in the contract, including necessary materials, equipment, and labor to complete the job. They shall not be measured.

1.3 RELATED WORK

A. The work shall be in accordance with the contract drawings.

B. The work shall be in accordance with the following subsidiary specifications. The subsidiary specifications are referred to in the text by the Section designation only.

PART 2 - PRODUCTS - Not Applicable

PART 3 - EXECUTION

3.1 WORK NOT INCLUDED

A. N/A.

3.2 ALL OTHER PRODUCTS AND EXECUTION

A. Work shall be in accordance with the drawings and the project specifications.

END OF SECTION
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SECTION 011700 - ACCIDENT PREVENTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work of this section consists of establishing an effective accident prevention program and providing a safe environment for all personnel and visitors.

1.2 SUBMITTALS

A. Accident Prevention Program: Before on-site work begins, submit for approval an accident prevention program. The Contracting Officer (CO) will review the proposed program for compliance with OSHA and project requirements. If the program requires any revisions or corrections, the Contractor shall resubmit the program within 10 days. No progress payments will be processed until the program is approved. The program shall include:

1. Name of responsible supervisor to carry out the program.
2. Weekly and monthly safety meetings.
3. First aid procedures.
4. Outline of each phase of the work, the hazards associated with each major phase, and the methods proposed to ensure property protection and safety of the public, government personnel, and the Contractor's employees. Identify the work included under each phase by reference to specification section or division numbers.

B. Submit a brief report of safety meetings and of inspections.

C. Upon request, submit proof of employees' qualifications to perform assigned duties in a safe manner.

1.3 QUALITY ASSURANCE

A. Clauses entitled "Accident Prevention" and "Permits and Responsibilities" of the General Provisions. In case of conflicts between Federal, state, and local safety and health requirements, the most stringent shall apply. Equipment or tools not meeting OSHA requirements will not be allowed on the project sites. Failure to comply with the requirements of this section and related sections may result in suspension of work.

B. Qualifications of Employees

1. Ensure that employees are physically qualified to perform their assigned duties in a safe manner.

2. To as great an extent as possible, do not allow employees to work whose ability or alertness is impaired because of drugs, fatigue, illness, intoxication, or other conditions that may expose themselves or others to injury.
3. Operators of vehicles, mobile equipment, hoisting equipment, and hazardous plant equipment shall be able to understand signs, signals, and operating instructions, and be capable of operating such equipment. Provide operating instructions for all equipment. Newly hired operators shall be individually tested by an experienced operator or supervisor to determine if they are capable of safely operating equipment.

1.4 ACCIDENT REPORTING

A. Reportable Accidents: A reportable accident is defined as death, occupational disease, traumatic injury to employees or the public, property damage by accident in excess of $100, and fires. Within 7 days of a reportable accident, fill out and forward to the CO a DI-134 form, which may be obtained from CO.

B. All Other Accidents: The Contractor shall report all other accidents to the CO as soon as possible and assist the CO and other officials as required in the investigation of the accident.

1.5 MEASUREMENT AND PAYMENT

A. No separate measurement and/or payment will be made for this section. Payment shall be included with work shown in the schedule of items.

PART 2 - PRODUCTS

2.1 FIRST AID FACILITIES: provide adequate facilities for the number of employees and the type of construction at the site.

2.2 PERSONNEL PROTECTIVE EQUIPMENT: meet requirements of NIOSH and MSHA, where applicable, as well as ANSI.

PART 3 - EXECUTION

3.1 EMERGENCY INSTRUCTIONS: post telephone numbers and reporting instructions for ambulance, physician, hospital, fire department, and police in conspicuous locations at the work site.

3.2 ESCAPE ROUTES: provide and maintain adequate escape routes at all times in accordance with the Life Safety Code (NFPA 101-91). No corridor, aisle, stairway, door, or exit shall be obstructed or used in a manner that interferes with escape routes.

3.3 PROTECTIVE EQUIPMENT

A. Inspect personal protective equipment daily and maintain in a serviceable condition. Clean, sanitize, and repair, as appropriate, personal items before issuing them to another individual.

B. Inspect and maintain other protective equipment and devices before use and on a periodic basis to ensure safe operation.

3.4 SAFETY MEETINGS

A. As a minimum, conduct weekly 15-minute "toolbox" safety meetings. These meetings shall be conducted by a foreman and attended by all construction personnel at the worksite.

B. Conduct monthly safety meetings for all levels of supervision. Notify the CO so that he may attend. These meetings shall be used to review the effectiveness of the Contractor's safety effort, to resolve current health and safety problems, to provide a forum for planning safe construction activities, and for updating the accident prevention program. The CO will enter the results of the meetings into his daily log.

3.5 FALL PROTECTION FOR ROOFING WORK

A. Implement fall protection controls based on the type of roof being constructed and work being performed. Fall protection shall be in accordance with OSHA 1926.501. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

3.6 HARD HATS AND PROTECTIVE EQUIPMENT AREAS

A. A hard hat area will be designated by the CO. The hard hat area shall be posted by the Contractor in a manner satisfactory to the CO.

B. It is the Contractor's responsibility to require all those working on or visiting the site to wear hard hats and other necessary protective equipment at all times. As a minimum, provide six hard hats for use by visitors. Change liners before reissuing hats.

3.7 TRAINING

A. First Aid: Provide adequate training to ensure prompt and efficient first aid.

B. Hazardous Material: Train and instruct each employee exposed to hazardous material in safe and approved methods of handling and storage. Hazardous materials are defined as explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful substances that could cause death or injury.

END OF SECTION 011700
June 2012

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SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals. See Table 013300-1 for a summary of required submittals.

B. See other specification section within this package for additional requirements on submittal.

1.2 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. The Contracting Officer (CO) reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on CO's receipt of submittal.

1. Initial Review: Allow 14 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. CO will advise Contractor when a submittal being processed must be delayed for coordination.
2. If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Allow 14 days for processing each re-submittal.
4. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

C. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space on label or beside title block to record Contractor's review and approval markings and action taken by CO.

3. Include the following information on label for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name and address of Contractor.
    d. Name of manufacturer.
    e. Unique identifier, including revision number.
    f. Number and title of appropriate Specification Section.
    g. Drawing number and detail references, as appropriate.
    h. If more than one item is shown on submittal sheet, identify item.

D. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

E. Additional Copies: Unless additional copies are required for final submittal, and unless CO observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.

F. Use for Construction: Use only final submittals with mark indicating action taken by CO in connection with construction.

1.3 MEASUREMENT AND PAYMENT

A. No separate measurement and/or payment will be made for this section. Payment shall be included with work shown in the schedule of items.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS – (Submittals requiring CO approval)

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

1. Number of Copies: Submit three copies of each submittal, unless otherwise indicated. CO will return two copies. Mark up and retain one returned copy as a Project Record Document.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's written recommendations.
    b. Manufacturer's product specifications.
    c. Manufacturer's installation instructions.

d. Manufacturer's catalog cuts.
e. Wiring diagrams showing factory-installed wiring.
f. Compliance with recognized trade association standards.
g. Compliance with recognized testing agency standards.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.

D. Contractor's Construction Schedule: The contractor shall submit a Construction Schedule, for approval by CO, in accordance with the contract provisions within 5 day of commencement of work.

E. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

2.2 INFORMATIONAL SUBMITTALS – (Submittals NOT requiring CO approval)

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit three copies of each submittal, unless otherwise indicated. CO will not return copies.
2. Certificates and Certifications: Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements in Section 014100 "Quality Control."

B. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

C. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either

during installation of product or after product is installed in its final location, for compliance with requirements.

D. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment.

E. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

PART 3 - EXECUTION

3.1 GENERAL

A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to CO.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

C. CO will not review submittals that do not bear Contractor's approval stamp and will return them without action.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

E. Substitutions – Whenever materials, products, and equipment are listed by name or brand in the specifications and/or on the drawings, it is used as a measure of quality, utility, or standard. If the Contractor prefers to use any other brand or manufacturer of same quality, appearance and utility to that specified, he shall request substitution as provided below, not less than 30 days before the planned installation of the item. The Contracting Officer will approve or disapprove the request for substitution.

F. Requests for substitutions will only be considered if contractor submits the following:

1. Complete technical data including drawings, complete performance specifications, test data, samples and performance tests of the article proposed for substitution. Submit additional information if required by Contracting Officer. All items in the above information shall be circled, tagged, or marked in some way to indicate all deviations or differences which the proposed item differs from the originally specified item.
2. Similar data as above for item originally specified. All items shall be marked to identify where/how the proposed substitution will differ.
3. A statement by the Contractor that the proposed substitution is in full compliance with the contract documents, applicable codes, and laws.

4. The Contractor shall be responsible for any effect upon related work in the project for any substitution and shall pay any additional costs generated by any substitutions.

3.2 SUBMITTAL SCHEDULE – Submittals shall be made as required by and called for in the drawings and specifications. The following table is a summary of the required submittals for the project - the table is to assist the Contractor and may not be all inclusive – additional submittals may be required by specific specifications:

TABLE 013000-1

Spec. Section	Section Title	Subsection	Required Submittal
Section C	General Specifications	1.6	Waste Management Plan
011700	Accident Prevention	1.2.A,B,C	Construction Site Plan
061000	Rough Carpentry	1.3.A	Product Data
061000	Rough Carpentry	1.3.B	Material Certificates
061600	Sheathing	1.2.A	Product Data
072100	Building Insulation	1.4.A	Product Data
073110	Asphalt Shingles	1.3.A	Product Data
073110	Asphalt Shingles	1.3.B	Manufacturers Application Instructions
073110	Asphalt Shingles	1.3.C	Maintenance Data
073110	Asphalt Shingles	1.3.D	Warranties
076200	Sheet Metal Flashing and Trim	1.3	Samples for Initial Selection

END OF SECTION 013300
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SECTION 017320 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes demolition and removal of the following:

1. Selected portions of a building or structure.
2. Repair procedures for selective demolition operations.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Government property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 PROJECT CONDITIONS

A. Government will occupy the building during selective demolition. Conduct selective demolition so Government operations will not be disrupted. Provide not less than 72 hours' notice to CO of activities that will affect Government operations.

B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.

C. Government assumes no responsibility for condition of areas to be selectively demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Government as far as practical.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Contracting Officer (CO). Hazardous materials will be removed by Government under a separate contract.

E. Storage or sale of removed items or materials on-site will not be permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain electrical service during selective demolition operations.

1.5 MEASUREMENT AND PAYMENT

A. No separate measurement and/or payment will be made for this section. Payment shall be included with work shown in the schedule of items.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

A. Use new repair materials identical to existing materials.

1. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that required utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to CO.

3.2 UTILITY SERVICES

A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

B. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by CO and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to CO and to authorities having jurisdiction.

1. Provide at least 72 hours' notice to CO if shutdown of service is required during changeover.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from CO and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
3. Protect existing site improvements, appurtenances, and landscaping to remain.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

3.4 POLLUTION CONTROLS

A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.

B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.5 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Existing Facilities: Comply with CO's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by CO, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.6 PATCHING AND REPAIRS

A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.

B. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

C. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Government property and legally disposes of them.

END OF SECTION 017320
June 2012

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SECTION 024100 - WASTE MATERIAL DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the loading, handling, hauling, and placing of construction debris.

1.2 MEASUREMENT AND PAYMENT

A. There will be no separate measurement or payment for work in this Section. Waste material disposal is considered incidental to other items of work shown in the Schedule of Items.

PART 2 - PRODUCTS – NOT APPLICABLE

PART 3 - EXECUTION

3.1 Waste material to be removed:

A. All demolition materials, excess building materials, garbage, and other refuse generated shall be hauled to a disposal site.

3.2 Disposal Site:

A. All waste material shall be removed from the project site and legally disposed off of Government property in an approved landfill.

1. The contractor is responsible for all costs and permits associated with landfill disposal.
2. The Government is not responsible for waste material upon its departure from the project site.

END OF SECTION 024100
May 2011

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SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes all work necessary or required for rough framing of the project, as indicated on the drawings. Such work includes, but is not necessarily limited to, framing, blocking and backing, furring, sheathing, subflooring and underlayment, and building wrap.

1.2 DEFINITIONS

A. Rough Carpentry: Carpentry work concealed by other construction and not specified in other Sections.

B. Lumber grading agencies, and the abbreviations used to reference them, include the following:

1. NELMA - Northeastern Lumber Manufacturers Association.
2. NLGA - National Lumber Grades Authority.
3. WCLIB - West Coast Lumber Inspection Bureau.
4. WWPA - Western Wood Products Association.

1.3 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

1.4 QUALITY ASSURANCE

A. Source Limitations for Engineered Wood Products: Obtain each type of engineered wood product through one source from a single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

1.6 MEASUREMENT AND PAYMENT

A. There will be no separate measurement or payment for work in this section. Payment will be included at the contract unit price for items shown on the Schedule of Items.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. Provide dressed lumber, S4S, unless otherwise indicated.

B. Wood Structural Panels:

1. Plywood: DOC PS 1.
2. Oriented Strand Board: DOC PS 2.
3. Thickness: As needed to comply with requirements specified but not less than thickness indicated.
4. Comply with "Code Plus" provisions in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial."
5. Factory mark panels according to indicated standard.

2.2 DIMENSION LUMBER

A. Framing Other Than Non-Load-Bearing Partitions: Construction or No. 2 grade and any of the following species:

1. Douglas fir-larch; WCLIB or WWPA.
2. Hem-fir; WCLIB or WWPA.

2.3 MISCELLANEOUS LUMBER

A. General: Provide lumber for support or attachment of other construction, including the following:

1. Rooftop equipment bases and support curbs.
2. Blocking.
3. Cants.
4. Nailers.
5. Furring.
6. Grounds.

B. For items of dimension lumber size, provide Construction, Stud, or No. 2 grade lumber with 15 percent maximum moisture content and the following species:

1. Western woods; WCLIB or WWPA.

C. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:

1. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

D. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.4 SHEATHING

A. Plywood Roof Sheathing: Exterior sheathing.

1. Span Rating: Not less than 32/16.

2. Thickness: Not less than 15/32 inch (11.9 mm).

B. Oriented-Strand-Board Roof Sheathing: Exposure 1, Structural I sheathing.

1. Span Rating: Not less than 32/16.

2. Thickness: Not less than 15/32 inch (11.9 mm).

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: CABO NER-272.

D. Wood Screws: ASME B18.6.1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Do not use materials with defects that impair quality of rough carpentry or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

C. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.

D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated in the drawings, and complying with the following:

1. CABO NER-272 for power-driven fasteners.
2. Table 2306.1, "Fastening Schedule," in the Standard Building Code.

E. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.

F. Use finishing nails for exposed work, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

3.2 WOOD FRAMING INSTALLATION, GENERAL

A. Framing Standard: Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.

B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

C. Do not splice structural members between supports.

3.3 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations contained in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.

1. Comply with "Code Plus" provisions in above-referenced guide.

B. Fastening Methods: Fasten panels as indicated below:

1. Sheathing:

a. Minimum width of sheathing shall be 48 inches (top row of sheathing may be less than 48 inches to meet ridge layout).
b. Nail to wood framing.
c. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 061000
June 2012

USDA FOREST SERVICE, R-4
Manila Office Roof Replacement

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Roof sheathing.
   2. Sheathing joint and penetration treatment.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1.3 MEASUREMENT AND PAYMENT

A. There will be no separate measurement or payment for the work in this section. Payment will be included in the contract unit price for items shown in the Schedule of items.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

A. Plywood: DOC PS 1.

B. Oriented Strand Board: DOC PS 2.

2.2 ROOF SHEATHING

A. Plywood Roof Sheathing: Exposure 1, Structural I sheathing.

   1. Span ratio: Not less than 32/16
   2. Thickness: Not less than 15/32 inch

B. Oriented-Strand-Board Roof Sheathing: Exposure 1, Structural I sheathing.

   1. Span ratio: Not less than 32/16
   2. Thickness: Not less than 15/32 inch

2.3 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M of Type 304 stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."

D. Coordinate roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

B. Fastening Methods: Fasten panels as indicated below:

1. Roof Sheathing:

a. Minimum width of sheathing shall be 48 inches (top row of sheathing may be less than 48” to match ridgeline).

b. Nail to wood framing
c. Space panels 1/8 inch (3 mm) apart at edges and ends.

d. Joints shall be over framing members.

END OF SECTION 061600
May 2011

USDA FOREST SERVICE, R-4
Manila Office Roof Replacement

SECTION 072100 - BUILDING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Loose-fill building insulation.

1.2 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of building insulation through one source from a single manufacturer.

B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

1.4 SUBMITTALS

A. Product Data: Loose fill insulation.

1.5 MEASUREMENT AND PAYMENT

A. There will be no separate measurement or payment for work in this section. Payment will be included at the contract unit price as shown on the Schedule of Items for the building.

PART 2 - PRODUCTS

2.1 LOOSE-FILL INSULATION

A. Cellulosic-Fiber Loose-Fill Insulation: ASTM C 739, chemically treated for flame-resistance, processing, and handling characteristics.

1. Thermal Resistance Value(s) (R-Values): R-Value shall be a minimum of R-38. The R-value shall be the value the product achieves after settlement.

2.2 PROHIBITED MATERIALS

A. Asbestos-containing materials

B. Urea Formaldehyde containing materials

C. Ammonium Sulfate containing materials

2.3 AUXILIARY INSULATING MATERIALS

A. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by insulation manufacturers for sealing joints and penetrations in vapor-retarder facings.

B. Adhesive for Bonding Insulation: Product with demonstrated capability to bond insulation securely to substrates indicated without damaging insulation and substrates.

C. Eave Ventilation Troughs (Baffles): Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide cross ventilation between insulated attic spaces and vented eaves.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and for other conditions affecting performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulation or vapor retarders, including removing projections capable of puncturing vapor retarders or of interfering with insulation attachment.

B. Before installing insulation, verify that all areas that will be in contact with the insulation are dry and free of projections which could cause voids, compressed insulation, or punctured vapor retarders. If moisture or other conditions are found that do not allow the workmanlike installation of the insulation, do not proceed but notify the Contracting Officer of such conditions

C. Prior to installation of insulation, install permanent blocking to prevent insulation from covering, clogging, or restricting air flow through soffit vents at eaves. Inspect the attic trap doors for blocking, if the existing blocking is missing or is insufficient, blocking may be required to be installed at the direction of the CO.

3.3 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice, rain, and snow.

C. Extend insulation in thickness indicated to achieve R-Value as shown in drawings to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

3.4 INSTALLATION OF LOOSE FILL INSULATION

A. Install insulation using the amount (by weight) of material per square meter foot required to achieve the specified thermal resistance value.

1. Fill space between and above ceiling joists and rafters to provide the specified R-Value. For pneumatic installations, use lowest air pressure allowed by manufacturer's instructions. Do not blow insulation into electrical devices, soffit vents, and mechanical vents which open into attic or other spaces to receive insulation.

3.5 PROTECTION

A. Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100
June 2012

USDA FOREST SERVICE, R-4
Manila Office Roof Replacement

SECTION 073110 - ASPHALT SHINGLES

PART 1 - GENERAL

1.1 SUMMARY

A. Shingle Application: Current shingle system is to be removed to decking and inspected for damage. All damaged decking is to be replaced with like material. New roof shall be composed as shown in drawings for a complete watertight roofing system.

B. This Section includes the following:

1. Asphalt shingles.
2. Underlayment Materials.

C. Related Sections include the following:

1. Section 076200 "Sheet Metal Flashing and Trim" for metal roof penetration flashings and counter flashings not part of this Section.
2. Section 061000 “Rough Carpentry” for roof deck wood structural panels.
3. Section 061600 “Sheathing” for roof deck.

1.2 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.3 SUBMITTALS

A. Product Data: Product literature for each type of product indicated.

B. Manufacturers Application Instructions.

C. Maintenance Data: For asphalt shingles to include in maintenance manuals.

D. Warranties: Manufacturers 50 year Limited Warranty. See below.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual that is approved, authorized, or licensed by asphalt shingle roofing system manufacturer to install roofing system indicated.

B. Source Limitations: Obtain all shingles, including ridge and hip cap shingles through one source from a single asphalt shingle manufacturer.

C. Fire-Test-Response Characteristics: Provide asphalt shingle and related roofing materials with the fire-test-response characteristics indicated, as determined by testing

identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Shingles shall carry the following labels:

    a. UL 790, Class A Fire Resistance
    b. UL 316, Wind Resistance
    c. ASTM D3462

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer’s unopened bundles with labels intact and legible.

B. Handle and store materials on site to prevent damage. Store roofing materials in a dry, well-ventilated, weathertight location according to asphalt shingle manufacturer's written instructions. Store in a covered, ventilated area of a maximum temperature of 100 degrees F. Store underlayment rolls on end on pallets or other raised surfaces. Do not double-stack rolls.

1. Handle, store, and place roofing materials in a manner to avoid significant or permanent damage to roof deck or structural supporting members.

C. Do not stack product.

D. Roof Top Loading: Lay shingle bundles flat. Do not bend over the ridge.

E. Protect unused underlayment from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.

1.6 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit asphalt shingle roofing to be performed according to manufacturer's written instructions and warranty requirements.

1. Installation:

    a. Install self-adhering sheet underlayment within the range of ambient and substrate temperatures recommended by manufacturer.
    b. Do not install underlayment or shingles on wet or damaged materials.

1.7 COORDINATION

A. Coordinate roof assemblies with, flashing, trim, walls, and other adjoining work to provide a leak proof, secure, and noncorrosive installation.

1.8 WARRANTY

A. All warranties shall commence on date of substantial completion. Upon completion and acceptance by architect and owner. The installing contractor shall provide the owner and architect with a fifty (50) year limited warrant from the manufacturer.

B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials or workmanship within specified warranty period. Materials failures include manufacturing defects and failure of asphalt shingles to self-seal after a reasonable time.

1. Warranty Period: Two years from the date of Substantial Completion.

1.9 MEASUREMENT AND PAYMENT

A. There will be no separate measurement or payment for work in this section. Payment will be included at the contract unit price as shown on the Schedule of Items for the building.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

2.2 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

A. Laminated Asphalt Shingles: ASTM D 3462, laminated, multi-ply overlay construction, glass-fiber reinforced, mineral-granule surfaced, and self-sealing.

1. Basis of Design:

a. Tamko – Heritage Vintage Laminated Asphalt Shingle or approved equal by COR.
b. Color – To be determined by COR from contractor provided color palette.

Hip & Ridge Product Specification

Nominal Size:	12” x 12”
Exposure:	5”
Shingles per Carton:	60
Lineal Feet per Carton:	25 lineal ft. per bundle

Shingle Product Specification

Nominal Size:	17-1/2” x 40”
Exposure:	5”
Coverage per Sales Square:	100 sq.ft
Bundles per Sales Square:	6 bundles

Sales Squares per pallet:	99.5 sq, ft,
Weight (approximate):	425 s. per square

2. Nails: Standard type roof nails should be used. Nail Shanks shall be a minimum of 12 gauge wire and a minimum head diameter of 3/8 inch. Nails should be long enough to penetrate 3/4 inches into the roof deck. Were the roof deck is less then 3/4 inches nails shall penetrate a minimum of 1/8 inch.

3. Available Manufacturers:

   a. Atlas Roofing Corporation
   b. Celotex Corporation
   c. CertainTeed Corporation
   d. Elk Corporation of Dallas
   e. EMCO Limited, Building Products Division
   f. GAF Materials Corporation
   g. Georgia-Pacific Corporation
   h. Globe Building Materials, Inc
   i. IKO
   j. Malarkey Roofing Company
   k. Owens Corning
   l. PABCO Roofing Products
   m. TAMKO Roofing Products, Inc.

2.3 UNDERLAYMENT MATERIALS

A. Self-Adhering Sheet Underlayment: Self Adhering SBR fiberglass reinforced base sheet

   1. Basis of Design Product: Grace Ice and Water Shield or approved equal

      a. Grace, W. R. & Co.; Grace Ice and Water Shield.

B. Felts: ASTM D 226 or ASTM D 4869, Type I asphalt-saturated organic felts, non-perforated.

2.4 RIDGE VENTS

A. Rigid Ridge Vent: Manufacturer's standard rigid section high-density polypropylene or other UV-stabilized plastic ridge vent with nonwoven geotextile filter strips and with external deflector baffles; for use under ridge shingles.

   1. Available Products:

      a. Air Vent Inc., a CertainTeed Company; ShingleVent II.
      b. GAF Materials Corporation; Cobra Rigid Vent II.
      c. Lomanco, Inc.; OR-4.
      d. Mid-America Building Products; RidgeMaster Plus.
      e. Obdyke, Benjamin Incorporated; Xtractor Vent X18.
      f. Owens Corning; VentSure Ridge Vent.

g. Solar Group, Inc. (The), a Gibraltar Company; PRV4.

2. Minimum Net Free Area: 8 square feet
3. Width: 8 inches (min)
4. Thickness: 7/8 inch (max)

2.5 ACCESSORIES

A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.

B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized steel wire shingle nails, minimum 0.120-inch- (3-mm-) diameter, smooth shank, sharp-pointed, with a minimum 3/8-inch- (9.5-mm-) diameter flat head and of sufficient length to penetrate 3/4 inch (19 mm) into solid wood decking or extend at least 1/8 inch (3 mm) through OSB or plywood sheathing.

1. Where nails are in contact with metal flashing, use nails made from same metal as flashing.

C. Felt Underlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized steel wire with low profile capped heads or disc caps, 1-inch (25-mm) minimum diameter.

2.6 METAL FLASHING AND TRIM

A. Flashing and Trim: Formed from 24 gauge thick, aluminum-zinc alloy-coated steel sheet prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges and fillers.

B. Sheet Metal Flashing and Trim: Comply with requirements in Section 07620"Sheet Metal Flashing and Trim."

1. Sheet Metal: Coil-coated aluminum or Zinc-coated (galvanized) steel.

C. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.

1. Drip Edges: Fabricate in lengths not exceeding 10 feet (3 m) with 6-inch (150-mm) roof deck flange and 1-1/2-inch (38-mm) fascia flange with 1/2-inch (12.5-mm) drip at lower edge unless full metal fascia is required.
2. Flashings: Fabricate with concealed flange extending a minimum of 18 inches (450 mm) beneath upslope asphalt shingles and 6 inches (150 mm) beyond each side of chimney and 6 inches (150 mm) above the roof plane.

D. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch (1.6 mm) thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 4 inches (100 mm) from pipe onto roof.

E. Open Valley Flashings: Install centrally in valleys, lapping ends at least 8 inches (200 mm) in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.

PART 3 - EXECUTION

3.1 VERIFICATION OF CONDITIONS

A. Contractor shall verify, on-site, that conditions presented are suitable for performance of the work. Report discrepancies in writing to the COR.

1. The roof deck or substrate shall be inspected to assure that all surfaces are even, sound, and free of depressions, waves or unsuitable projections.

B. Contractor shall verify all physical dimensions so that all materials are ordered to fit the Job.

3.2 EXAMINATION

A. After tearing existing roof off, examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provision has been made for flashings and penetrations through asphalt shingles.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 UNDERLAYMENT INSTALLATION

A. Double-Layer Felt Underlayment: Install double layers of felt underlayment on roof deck and over self-adhering underlayment perpendicular to roof slope in parallel courses. Install a 19-inch- (485-mm-) wide starter course at eaves and completely cover with full-width second course. Install succeeding courses lapping previous courses 19 inches (485 mm) in shingle fashion. Lap ends a minimum of 6 inches (150 mm). Stagger end laps between succeeding courses at least 72 inches (1830 mm). Fasten with roofing] nails.

1. Terminate felt underlayment extended up not less than 4 inches (100 mm) against sidewalls, curbs, chimneys and other roof projections.

B. Self-Adhering Sheet Underlayment: As directed in Drawings, Install self-adhering sheet underlayment, wrinkle free, over roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install per manufactures recommendations.

3.4 ASPHALT SHINGLE INSTALLATION

A. General: Installation shall be conducted according to drawings and in accordance with the Guide to Installing Asphalt Roofing Shingles published by shingle manufacturer and local building code.

3.5 OPEN SHEET METAL VALLEYS

A. Sheet metal flashing for valleys is specified in Section 07620 "Sheet Metal Flashing and Trim". Before installing and fastening flashing in place with metal cleats.

1. Cut regular shingle courses on each roof on true line 2 inches (50 mm) from valley centerline at top of valley, and increase width between lines by for each one inch (25 mm) for each 8 feet (2440 mm) of valley length, continuing to eaves.
2. Apply 2 inch (50 mm) band of asphalt roof cement over flashing, along and underside of shingles adjoining valley.
3. Press shingles tightly into cement, and nail in normal manner, except apply nails not closer than 5 inches (125 mm) to valley centerline. Do not drive nails through valley flashing.
4. Provide a 4 inch (100 mm) band of asphalt roof cement for fastening shingle tabs down along open metal gutters.

3.6 VENT AND STACK FLASHING

A. Apply shingles up to point where vent or stack pipe projects through roof, and cut nearest shingle to fit around pipe. Before applying shingles beyond pipe, prepare flange of metal pipe vent flashing as specified in Section 076200 "Sheet Metal Flashing and Trim", by applying a 1/8 inch (3 mm) thick coating of asphalt roof cement on bottom side of flashing flange. Slip flashing collar and flange over pipe, and set coated flange in 1/16 (2 mm) inch coating of asphalt roof cement. After applying flashing flange, continue shingling up roof. Lap lower part of flange over shingles. Overlap flange with side and upper shingles. Fit shingles around pipe, and embed in 1/16 (2 mm) inch thick coating of asphalt roof cement where shingles overlay flange.

3.7 CHIMNEY FLASHING

A. Provide treated wood crickets as specified in Section 061000"Rough Carpentry”. Provide metal base and counter-flashing as specified in Section 076200 "Sheet Metal Flashing and Trim". Uniformly coat masonry surfaces which are to receive flashing with asphalt primer applied at rate of 4 liters per 10 square meters one gallon per 100 square feet. Apply shingles over underlayment up to front face of chimney. Apply metal front base flashing with lower section extending at least 4 inches (100 mm) over shingles. Set base flashing in a 1/16 inch (2 mm) coating of asphalt roof cement on shingles and chimney face. Apply metal step flashing at sides in a coating of asphalt roof cement. Embed end shingles in each course that overlaps step flashing with asphalt roof cement. Apply metal rear base flashing over cricket and back of chimney in coating of asphalt roof cement. Apply end shingles in each course up to cricket, and

cement in place. Lap base flashing minimum of 3 inches (75 mm) with metal counter-flashing.

3.8 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and watertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete roof

3.9 SUBSTANTIAL COMPLETION INSPECTION

A. At completion of roofing installation and associated work, meet with the Architect, Installer, COR, and roofing system manufacturer's representative, and other representatives directly concerned with the performance of the roofing system.

1. Notify Architect or Owner 5 days in advance of date and time of inspection.

B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party attending.

C. Repair or replace (as required) deteriorated or defective work found at time above inspection to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION 073110
June 2012

USDA FOREST SERVICE, R-4
Manila Office Roof Replacement

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following sheet metal flashing and trim:

1. Formed steep-slope roof flashing and trim.

1.2 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.

B. Water Infiltration: Provide sheet metal flashing and trim that does not allow water infiltration to building interior.

1.3 SUBMITTALS

A. Samples for Initial Selection: For each type of sheet metal flashing and trim indicated with factory-applied color finishes.

1. Include similar Samples of trim and accessories involving color selection.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

1.5 MEASUREMENT AND PAYMENT

A. There will be no separate measurement or payment for work in this section. Payment will be included at the contract unit price as shown on the Schedule of Items and Section 00050.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. Prepainted, Metallic-Coated Steel Sheet: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, coating designation; structural quality.
2. Exposed Finishes: Apply the following coil coating:

    a. Siliconized-Polyester Coating: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a dry film thickness of not less than 0.2 mil for primer and 0.8 mil for topcoat.

        1) Color: As selected by Contracting Officer's Representative from manufacturer's full range.

2.2 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, and other suitable fasteners designed to withstand design loads.

1. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.

C. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

2.3 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop-fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.

B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.

C. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

D. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

2.4 STEEP-SLOPE ROOF SHEET METAL FABRICATIONS

A. Drip Edges and other Flashing: Fabricate from the following material:

1. Siliconized Polyester, Coated Steel: 0.0217 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Torch cutting of sheet metal flashing and trim is not permitted.

B. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.

C. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

D. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

E. Seal joints with elastomeric sealant as required for watertight construction.

3.3 ROOF FLASHING AND TRIM INSTALLATION

A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.

1. Flashings: Fabricate with concealed flange extending a minimum of 18 inches (450 mm) beneath upslope asphalt shingles and 6 inches (150 mm) beyond each side of chimney and 6 inches (150 mm) above the roof plane.
2. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch (1.6 mm) thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 4 inches (100 mm) from pipe onto roof.

3.4 CLEANING AND PROTECTION

A. Clean and neutralize flux materials. Clean off excess solder and sealants.

B. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

C. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200
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